

## WHAT IS CLAIMED IS:

1. A chain tensioner provided with a tensioner arm relatively slidably engaged with an outside on a loose side of a transmission chain without an end rockably supported by a fixed structure and coupling a driving sprocket and a driven sprocket and a tensioner lifter supported by a fixed structure for pressing an end of the tensioner arm on the loose side of the transmission chain, wherein the tensioner arm comprises:

an elastic band tensioner arm body curved toward the transmission chain; and  
a flexible tensioner shoe for covering a front of the tensioner arm body and having a chain guide groove to the front wherein the transmission chain is slidably fitted; and

a width of a middle in the longitudinal direction of the tensioner arm body is set to a smaller value relative to a width of each end of the arm body.

2. The chain tensioner according to claim 1, wherein an arc-shaped cut-out is formed on both sides of the middle to set the width of the middle of the tensioner arm body to a small value.

3. The chain tensioner according to claim 1, wherein cut-outs are provided in said tensioner arm body that are staggered to be not in alignment on each side of said tensioner arm body.

4. The chain tensioner according to claim 1, wherein cut-outs are provided in said tensioner arm body that are alignment relative to each other on each side of said tensioner arm body.

5. The chain tensioner according to claim 1, wherein gradually reduced areas are provided in said tensioner arm body that are alignment relative to each other on each side of said tensioner arm body.

6. The chain tensioner according to claim 1, wherein said tensioner arm extends for a predetermined distance in engagement with the loose side of said transmission chain for enhancing the oscillation absorption function of the transmission chain.

7. The chain tensioner according to claim 1, and further including a control arm for engaging the tensioner arm for applying pressure from the tensioner lifter to the tensioner arm.

8. The chain tensioner according to claim 7, wherein said control arm is a spring plate for applying a biasing force to the tensioner arm.

9. A chain tensioner provided with a tensioner arm rockably supported by a fixed structure and relatively slidably engaged with an outside on a loose side of a transmission chain coupling a driving sprocket and a driven sprocket and a tensioner lifter supported by a fixed structure for pressing the end of the tensioner arm upon the loose side of the transmission chain, wherein the tensioner arm comprises:

an elastic band tensioner arm body curved toward the transmission chain; and

a flexible tensioner shoe for covering a front of the tensioner arm body and being provided with a chain guide groove to a front wherein the transmission chain is slidably fitted; and

at least one hole formed in a middle in the longitudinal direction of the tensioner arm body.

10. The chain tensioner according to claim 9, wherein said tensioner arm extends for a predetermined distance in engagement with the loose side of said transmission chain for enhancing the oscillation absorption function of the transmission chain.

11. The chain tensioner according to claim 9, and further including a control arm for engaging the tensioner arm for applying pressure from the tensioner lifter to the tensioner arm.

12. The chain tensioner according to claim 11, wherein said control arm is a spring plate for applying a biasing force to retain engagement with the tensioner arm.

13. A chain tensioner comprising:

a tensioner arm relatively slidably engaged with a loose side of a transmission member for coupling a driving sprocket and a driven sprocket; and

a tensioner lifter for pressing an end of the tensioner arm on the side of the transmission member;

said tensioner arm comprising:

an elastic band tensioner arm body curved toward the

transmission member; and

a flexible tensioner shoe for covering a front of the tensioner arm body and having a guide groove wherein the transmission member is slidably fitted; and

wherein a central portion in the longitudinal direction of the tensioner arm body has a smaller width relative to the width of each end of the arm body.

14. The chain tensioner according to claim 13, wherein an arc-shaped cut-out is formed on both sides of the center to form the center of the tensioner arm body with a smaller width.

15. The chain tensioner according to claim 13, wherein cut-outs are provided in said tensioner arm body that are staggered to be not in alignment on each side of said tensioner arm body.

16. The chain tensioner according to claim 13, wherein cut-outs are provided in said tensioner arm body that are alignment relative to each other on each side of said tensioner arm body.

17. The chain tensioner according to claim 13, wherein gradually reduced areas are provided in said tensioner arm body that are alignment relative to each other on each side of said tensioner arm body.

18. The chain tensioner according to claim 13, wherein said tensioner arm extends for a predetermined distance in engagement with the loose side of said transmission member for enhancing the oscillation absorption function of the

transmission member.

19. The chain tensioner according to claim 13, and further including a control arm for engaging the tensioner arm for applying pressure thereto.

20. The chain tensioner according to claim 19, wherein said control arm is a spring plate for biasing the tensioner arm.